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AMSAT NEWS SERVICE
ANS-345

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:

ans-editor@amsat.org

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SB SAT @ AMSAT $ANS-345.01
AMSAT President's Letter for December 2005

AMSAT News Service Bulletin 345.01
From AMSAT HQ SILVER SPRING, MD.
December 11, 2005
To All RADIO AMATEURS
BID: $ANS-345.01

Fellow AMSAT Members,

I am quite pleased as AMSAT's Executive Vice President to have the opportunity to fill in on this month's President's Letter while Rick, Barry and Gunther are hard at work on various fundraising activities for AMSAT.

It is a very exciting time to be a member and supporter of AMSAT. One part of AMSAT's Vision is a constellation of High Earth Orbit (HEO) satellites. To accomplish this, it was recognized that the old method of working on single satellites in a serial fashion would not work and that several satellites would need to be constructed in parallel. That is exactly what is now beginning to happen with AMSAT-DL's P3E and AMSAT-NA's Eagle projects.

Over the recent Thanksgiving holiday weekend, AMSAT President Rick Hambly, W2GPS, VP of Engineering, Dr. Bob McGwier, N4HY and Dr. Al Katz, K2UYH, President of Lintech and professor of electrical engineering at College of New Jersey, hosted a meeting for several radio amateurs and a student to tackle some of the RF parts of AMSAT-NA's Eagle project.

The attendees included:

Dr. Tom Clark, W3IWI, AMSAT-NA chief scientist
Paul Drexler, W2PED, Microwave R.F. designer
Matt Ettus, N2MJI, Gnu Radio project co-leader and designer of the USRP

(universal software radio peripheral)
Dr. Marc Franco, N2UO, Lintech, Inc. Engineer
Steve Hendricksen, EE student at the College of New Jersey
Jan King, W3GEY/VK4GEY, AMSAT founder, former VP Engineering,
and former board member
Paul Wade, W1GHZ, well know Microwave engineer whose web based
microwave handbook is read the world over.
Marc Zaharchuk, WA3CRM, Lockheed Space RF Engineer

Rick, W2GPS, got the meeting started with an overview of the project, our organization and the goals of Eagle. Bob, N4HY, then discussed the overall RF requirements for the spacecraft, including the use of SDX as the primary linear transponder with the need to plan for an all-analog backup and for command receivers. Tom, W3IWI, then gave a detailed analysis on the C-C Rider phased array of patches. Matt, N2MJI, talked about Gnu Radio, the Universal Software Radio Peripheral, and his proposal for the CC Rider ground station which has been generously funded by Phil Karn, KA9Q.

As a result of the weekend, Marc, N2UO, who has years of RF experience including amplifiers in space, has signed up to do the envelope restoration (HELAPS) transmitters. John Stephensen, KD6OZH, has signed up to lead the receiver development and is working first on the 70 cm receiver. Paul, W1GHZ, has agreed to design a critical component for CC Rider, the bandpass filter that will be needed to allow the transmitter and receiver to share antennas. Finally, Al Katz, K2UYH, President of Lintech, Inc. has graciously offered to host an RF facility for the AMSAT Eagle project at Lintech in Hamilton, NJ. This provides the Eagle RF team with access to a large collection of lab/test equipment and a first class clean room facility for the development, construction and testing of Eagle's RF modules.

The RF group is not the only part of the Eagle Team making progress. The mechanical and structural group is also hard at work on the modules and spaceframe for Eagle.

One of the challenges in a project as complex as Eagle is managing all the data. During the Eagle Team meeting in Pittsburgh the concept of using a Wiki based system was discussed. From that discussion Emily, W0EEC, implemented Eaglepedia, which will enhance the updating and sharing of information on a scale never before seen on any AMSAT project. Eagle team members are already uploading files and information and pending resolution of a few outstanding security issues, Eaglepedia will be linked to the AMSAT website.

While all this exciting activity is going on within the Eagle team, AMSAT-DL is also making steady progress on their P3E satellite. As I'm writing this several AMSAT-NA members are in Germany working on the IHU-3 and other modules for P3E. More details about the results of this meeting will be coming soon.

There is a lot of hard work being done by a lot of volunteers in many different locations. All this effort needs your support to maintain the building momentum. There are many ways to show your enthusiasm for getting these HEO satellites built. Join the President's Club, donate directly to the project of your choice, join or renew your AMSAT membership. All of these can be done through the mail, web site or a phone call to Martha in the AMSAT office.

73,
Lee McLamb, KU4OS
AMSAT Executive Vice President

[ANS thanks Lee, KU4OS for the above information]

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SB SAT @ AMSAT $ANS-345.02
Straight Key Night on OSCAR 2006

AMSAT News Service Bulletin 345.02
From AMSAT HQ SILVER SPRING, MD.
December 11, 2005
To All RADIO AMATEURS
BID: $ANS-345.02

Once again, AMSAT-NA is pleased to sponsor Straight Key Night on OSCAR for enjoyment by all radio amateurs.

OSCAR SKN 2006 will run for 24 hours, 0000-2400 UTC, on 1 January 2006. It's very simple: no rules, no scoring, and no need to send in a log. Just operate CW through any OSCAR satellite using a straight hand key, working as many other SKN participants as you can. Contacts via the moon (OSCAR Zero) count too.

As in past years, all participants are requested to nominate one of the operators they worked for "Best Fist" recognition. Your nominee need not have the best fist of those you heard, just of those you worked.

Please send all nominations to Ray Soifer via w2rs@arrl.net (Note the new address. Ray's old address, w2rs@amsat.org, only works sporadically now due to ISP problems.)

A list of those nominated will be published via the AMSAT News Service in early February, and in The AMSAT Journal.

[ANS thanks Ray, W2RS for the above information]

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SB SAT @ AMSAT $ANS-345.03
PCSAT2 Operations Guidance II

AMSAT News Service Bulletin 345.03
From AMSAT HQ SILVER SPRING, MD.
December 11, 2005
To All RADIO AMATEURS
BID: $ANS-345.03

Bob, WB4APR passed along the following info concerning PCSAT2 operations:

Since the purpose of the PCSAT series of amateur satellites is to encourage the development of more satellites for mobile communications, we decided to further modify the recommended operations plan for PCSAT2 to allow some testing from mobiles in the user service agreement. See:
http://www.ew.usna.edu/~bruninga/pec/useragreemt.txt

We added paragraph 1b below:

1) PCSAT2 is for users and data applications. It is NOT for UNATTENDED beaconing of fixed text from fixed stations... except for remote data or environmental sensor experiments at low rates...

1b) However, since the PCSAT series of satellites were designed [to] promote a... capability for mobiles, the unattended beaconing from a vehicle at a 5 minute rate for the purpose of assessing antenna or success statistics is authorized.

The caution still applies, however, IF PCSAT2 is using its 2m downlink on 145.825, to make sure you are not transmitting during a pass when the ISS

crew is using voice.

Our goal is to have enough Amateur Satellites always listening on 145.825 AX.25 packet to relay short position and message data from mobiles anywhere on the planet, especially when they are out of range of the installed terrestrial packet infrastructure and Internet.

We also need more unattended ground stations listening on the PCSAT2 downlinks and feeding the data into the global APRS Internet system. If you have a spare receiver, and a TNC, you are welcome to put it on either of these downlinks: 435.275 routine (PC2), or 145.825 (PC1 and sometimes PC2), or 145.825 for ARISS.

PCSAT callsigns:

Notice that the currently active calls are PCSAT-1 on NO-44 also called PCsat, and PCSAT2 (no SSID) which is on ISS.

The callsign PCSAT-2 is also on board PCsat but it is only used for 9600 baud packet downlink and so is not involved in this current exercise. I see some stations trying to use the call PCSAT-2 and it will not work at this time.

As stated above, our goal is to have enough Amateur Satellites always listening on 145.825... and with both PCSAT-1 and PCSAT2 operating on the same channel that is giving most of us 12 passes a day to experiment with.

The goal is for a distant traveler in the wilderness to be able to get a message out a few times a day and for travelers to get their position out about once a day via this system. We think that with 3 or 4 satellites in orbit and travelers beaconing once every 10 minutes while on such expeditions, that at least one report per day will get back to civilization.. This could support hundreds of amateur radio wilderness travelers PER footprint.

[ANS thanks Bob, WB4APR for the above information]

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SB SAT @ AMSAT $ANS-345.04
ARISS Status December 5, 2005

AMSAT News Service Bulletin 345.04
From AMSAT HQ SILVER SPRING, MD.
December 11, 2005
To All RADIO AMATEURS
BID: $ANS-345.04

1. Massachusetts Contact Successful

On November 29, seventeen students from Hawthorne Brook Middle School in Townsend, Massachusetts each asked a question of Bill McArthur, KC5ACR. One hundred students, teachers, parents, and administrators, including the district superintendent, attended. Among the seven media representatives who covered the event were those from four newspapers: Worcester Telegram, Townsend Times, Community Journal, and Groton Herald.

An article in the Community Journal is available for viewing by subscribers only until the article is one week old, at which time the entire article may be viewed by non-subscribers as well. See:
http://www.thecommunityjournal.com/news/2005/1202/Townsend/034.html

One of the sixth graders present for the contact, (who did not ask a question), remarked afterwards, "I'll remember this for the rest of my

life."

2. Canadian School Contact Successful

Students from the Ralph McCall School in Airdrie, Alberta, Canada experienced a successful contact with the ISS on Friday, December 2. Bill McArthur, KC5ACR, answered 18 questions posed to him by eighteen students. The audience was comprised of 920 students from Ralph McCall, and 140 from the Chestermere School. Many dignitaries attended: Member of Parliament Myron Thompson, the Superintendent of Schools, one associate superintendent, a local School Board trustee, the mayor of the city of Airdrie, 4 City Councilors, Alberta education representative from the Emerging Technologies branch, and local high school principals. In addition, the principal from Sir James Lougheed Elementary School, the next Alberta school scheduled for an ARISS contact, also attended. The contact received extensive media coverage. CBC (Canadian Broadcasting Corporation) 24 hour news channel, Newsworld, CBC local television, CBC radio, CTV news local affiliate, City TV, Global TV, Calgary Sun, Calgary Herald, 3 local Airdrie and area newspapers, and a Reuters writer all covered the event.
The CBC posted a story on its website, "Space station astronaut takes call from Alberta students." See:
http://www.cbc.ca/story/science/national/2005/12/02/astronauts-school051202.html

This contact was carried live on the IRLP 9010 Discovery Reflector, and through streaming audio (shoutcast) on its companion website. Echolink was also used, and twelve connections were made from the following countries: Thailand, the U.K., the U.S.A., and Germany.

3. Russian Contact Successful

On Thursday, November 24, school children in Star City, Russia, had a successful contact with the ISS via amateur radio. Among the audience attending the event were students, representatives from the Gagarin Cosmonaut Training Center (GCTC) and other cosmonauts.

4. Central Park Contact Update

On November 23, students from the Central Park Middle School in Schenectady, New York spoke with Bill McArthur, KC5ACR, on board the ISS. Fifty students, teachers, parents and others attended. Four television stations covered the event, broadcasting the contact to approximately 500,000. The Albany Times Union scheduled an interview with the school's public relations officer. The school is currently working with the Schenectady Amateur Radio Association and its after-school program to begin a ham radioclubforstudents.

5. ARRL Article on ESA CERN and New York Contacts

ARRL wrote a web story on the ESA CERN and Central Park contacts entitled, "Spacewalks 'Thrilling,' Astronaut Tells Students during Ham Radio Chat." See:
http://www.arrl.org/news/stories/2005/11/30/1/?nc=1

6. ARRL Article on PCSAT2

On November 29, ARRL ran an article on PCSAT. "PCSat, PCSat2 operational information announced," may be found at: http://www.arrl.org/

7. SuitSat Status

The Russian EVA to deploy SuitSat has been delayed. The new tentative date for EVA/deployment is February 2, 2006.

8. McArthur Active on ISS Ham Radio System

Astronaut Bill McArthur, KC5ACR, continues to thrill the amateur radio community as he makes general contacts via the ISS Ham radio system. He was active on November 30 over the U.S., and again on December 1 over South America. He made additional contacts with stations in the U.S. over the December 3 - 4 weekend.

On December 1, ARRL posted a story on McArthur's contacts over the Thanksgiving holiday. "ISS commander cheers for Army in contact with Naval Academy's W3ADO" may be found at: http://www.arrl.org/

In anticipation of the Army-Navy game, held on Saturday, December 3, Bill transmitted a message via the ISS Ham packet radio system's beacon which read, "Go Army! Beat Navy!"

9. Astronaut Training Status

Congratulations to astronaut Michael Lopez-Alegria, who on Wednesday, November 30, passed his amateur radio license exam.

10. Italian Astronaut Visits with School Children

On November 9, students from the Istituto Comprensivo F. Negri in Casale Monferrato, Italy, had the opportunity to speak with Bill McArthur, KC5ACR, on board the ISS. On November 28, Italian astronaut Roberto Vittori, IZ6ERU attended a conference in Casale Monferrato and met with three students, ages 10-11, from the Negri Institute, adding to the excitement of their space contact. Vitorri participated in two of his own ARISS contacts in April 2005 with the Marconi and Malignani Institutes in Civitavecchia and Palmanova, respectively, and the winning school of the ESA competition in ESRIN, Frascati, Italy, during his Eneide Mission on the ISS.

[ANS thanks Carol, KB3LKI for the above information]

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SB SAT @ AMSAT $ANS-345.05
New Items at the AMSAT Online Store

AMSAT News Service Bulletin 345.05
From AMSAT HQ SILVER SPRING, MD.
December 11, 2005
To All RADIO AMATEURS
BID: $ANS-345.05

Many new items have been added to the AMSAT Online Store.

In addition to the 2005 Wall Clock with weather station, there is now a 2005 Desk Clock with weather station. Either clock is a really nice addition to your home, office or ham shack.

The 2005 23rd AMSAT Symposium Proceedings with all the articles that were to be presented at Lafayette is available for purchase.

A must have item, the 2004 22nd AMSAT Symposium DVD is also available. A year in the making, the DVD contains all of the proceedings, board of directors minutes, video, and audio of all the presentations and much, much more.

These items and more can be purchased with your donation at http://www.amsat.org and click on AMSAT Online Store.

[ANS thanks Bruce, KK5DO for the above information]

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SB SAT @ AMSAT $ANS-345.06
KO4MA Announces Possible Satellite Operation from KG4

AMSAT News Service Bulletin 345.06
From AMSAT HQ SILVER SPRING, MD.
December 11, 2005
To All RADIO AMATEURS
BID: $ANS-345.06

Drew, KO4MA wants to give amateur stations a "heads up" in regards to a possible Caribbean satellite operating opportunity.

Drew wrote, "This is still somewhere between tentative and confirmed, but it looks like I'm going to be in KG4 from the evening December 14 to December 18. If I can secure the license upon arrival, I'll try to be QRV in the evenings and possibly early morning passes."

The best bet will be to look on SO-50, FO-29, and VO-52. Drew says he will post his latest updates on the AMSAT-BB.

[ANS thanks Drew, KO4MA for the above information]

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SB SAT @ AMSAT $ANS-345.07
Houston AMSAT Net Moves Satellites

AMSAT News Service Bulletin 345.07
From AMSAT HQ SILVER SPRING, MD.
December 11, 2005
To All RADIO AMATEURS
BID: $ANS-345.07

The Houston AMSAT Net, still on the W0KIE radio network, can now be heard on Intelsat Americas 6, 93 degrees West, Transponder 1, 6.2 and 6.8 MHz wideband audio.

[ANS thanks Bruce, KK5DO for the above information]

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SB SAT @ AMSAT $ANS-345.08
N5AFV Announces FM Satellite DXpedition

AMSAT News Service Bulletin 345.08
From AMSAT HQ SILVER SPRING, MD.
December 11, 2005
To All RADIO AMATEURS
BID: $ANS-345.08

Allen, N5AFV says he is pleased to announce that he will be bringing his FM satellite gear on a cruise ship sailing from Port Everglades, FL to the island of Dominica and back. He plans to work the FM birds AO-27, SO-50 and AO-51 using his Icom W32A HT and an AL800 telescoping antenna.

While Allen plans shipboard operation, and has done so successfully in the past, there is always the possibility that he will not be allowed to operate from the ship. If that happens, Allen will try to operate onshore at the ports of call where he can do so.

Itinerary
Dec 17, Leave Port Everglades, FL, 1700 EST

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         Call signs N5AFV and N5AFV/C6A
Dec 18, Nassau, Bahamas, 0800-1600 local time
         Call sign N5AFV/C6A
Dec 19, At Sea
         Call sign N5AFV/C6A
Dec 20, San Juan, PR, 1300-2300 local time
         Call sign KP4/N5AFV
Dec 21, St. Thomas, USVI, 0800-1700 local time
         Call sign KP2/N5AFV
Dec 22, Dominica, 1200-1900 local time
         Call sign J79AFV
Dec 23, St. Barts, 0800-2300 local time
         Call sign FJ/N5AFV
Dec 24, Tortolla, BVI, 0800-1500 local time
         Call sign VP2V/N5AFV
Dec 25, At Sea
         Call sign N5AFV/C6A
Dec 26, At Sea
         Call sign N5AFV/C6A
Dec 27, Arrive Port Everglades, FL, 0700 EST
         Call sign N5AFV

[ANS thanks Allen, N5AFV for the above information]

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In addition to regular membership, AMSAT offers membership in the
President's Club. Members of the President's Club, as sustaining donors to
AMSAT Project Funds, will be eligible to receive additional benefits.
Application forms are available from the AMSAT Office.

73,
This week's ANS Editor,
Al Marote, WA1LBG
wa1lbg at amsat dot org
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